Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently amended) An image sensor comprising:

(a) a plurality of pixels arranged in an array of rows and columns;

(b) a color filter pattern spanning at least a portion of the pixels, wherein the color filter pattern forms a plurality of color filter kernels having at least one color of every color in the color filter pattern in a predetermined arrangement with an identical pattern of colors in each color filter kernel, and wherein the color filter kernels are arranged in at least two different uniformly distributed sets that are correlated with the color filter pattern; and

(c) a mechanism for independent control of an integration time of each uniformly distributed set ~~color filter kernel according to its spatial location~~, wherein a first uniformly distributed set has ~~at least one color filter kernel includes at least one fast pixel having~~ a first integration time and ~~at least one slow pixel having~~ a second uniformly distributed set has a second integration time that is different from the first integration time~~, wherein the first integration time is longer than the second integration time and data from the at least one slow pixel includes valid signal level information with adequate signal to noise ratio while data from the at least one fast pixel does not contain valid signal level information~~.

2. (Original) The image sensor as in claim 1, wherein the color filter pattern is a Bayer color filter pattern.

3. (Original) The image sensor as in claim 1, wherein the color filter pattern is a 2x2 kernel.

4. (Currently amended) The image sensor as in claim 3, wherein the at least two different uniformly distributed sets comprise ~~an integration time pattern is~~ an alternating pattern of two lines of 2x2 kernels ~~at one integration time and adjacent two lines at another integration time~~.

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5.   (Currently amended) The image sensor as in claim 3, wherein ~~the integration time for the a first set of 2x2 pixels associated with~~ the at least two different uniformly distributed sets comprise ~~a first kernel is at a third integration time, and the integration time of adjacent~~ 2x2 kernels ~~in the same set of two lines at a fourth integration time~~.

6.   (Cancelled)

7.   (Cancelled)

8.   (Currently amended) An image sensor comprising:

(a) a plurality of pixels arranged in an array of rows and columns; and

(b) an integration time control line for each row of pixels, wherein each integration time control line is routed to a portion of the pixels in one row and to a portion of the pixels in an ~~two~~ adjacent row ~~rows~~ to provide ~~for~~ output signal values having signals that are generated from pixels within at least two physically separate rows within the array.

9.   (Currently amended) A camera comprising:

(a) an image sensor comprising:

(a1) a plurality of pixels arranged in an array of rows and columns;

(b) a color filter pattern spanning at least a portion of the pixels, wherein the color filter pattern forms a plurality of color filter kernels having at least one color of every color in the color filter pattern in a predetermined arrangement with an identical pattern of colors in each color filter kernel, and wherein the color filter kernels are arranged in at least two different uniformly distributed sets that are correlated with the color filter pattern; and

(c) a mechanism for independent control of an integration time of each uniformly distributed set ~~color filter kernel according to its spatial location~~, wherein a first uniformly distributed set has ~~at least one color filter kernel includes at least one fast pixel having~~ a first integration time and ~~at least~~

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~~one slow pixel having~~ a second uniformly distributed set has a second integration time that is different from the first integration time~~, wherein the first integration time is longer than the second integration time and data from the at least one slow pixel includes valid signal level information with adequate signal to noise ratio while data from the at least one fast pixel does not contain valid signal level information~~.

10.   (Original) The camera as in claim 9, wherein the color filter pattern is a Bayer color filter pattern.

11.   (Original) The camera as in claim 9, wherein the color filter pattern is a 2x2 kernel.

12.   (Currently amended) The camera as in claim 11, wherein the at least two different uniformly distributed sets comprise ~~an integration time pattern is~~ an alternating pattern of two lines of 2x2 kernels ~~at one integration time and adjacent two lines at another integration time~~.

13.   (Currently amended) The camera as in claim 11, wherein ~~the integration time for the a first set of 2x2 pixels associated with~~ the at least two different uniformly distributed sets comprise ~~a first kernel is at a third integration time, and the integration time of adjacent~~ 2x2 kernels ~~in the same set of two lines at a fourth integration time~~.

14.   (Cancelled)

15.   (Cancelled)

16.   (Original) The camera as in claim 9 further comprising a mechanism that reads out at least a subset of the plurality of pixels and uses the signal values obtained from the readout to determine the integration times of the plurality of pixels.

17.   (Currently amended) A camera comprising:

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(a) an image sensor comprising:

(a1) a plurality of pixels arranged in an array of rows and columns; and

(a2) an integration time control line for each row of pixels, wherein each integration time control line is routed to a portion of the pixels in <u>one row</u> <u>and to a portion of the pixels in an</u> ~~two~~ adjacent <u>row</u> ~~rows~~ to produce output signal values having signals that are generated from pixels within at least two physically separate rows within the array.

18.   (Previously presented) The camera as in claim 17, further comprising:

(b) memory; and

(c) means for writing the output signal values into two row locations in the memory for each row of pixels, wherein the output signal values are reconstructed in the memory.

19.   (Currently amended) The image sensor of claim 1, further comprising <u>an integration time control line for each row of pixels, wherein each</u> <u>integration time control line is routed to a portion of the pixels in two adjacent</u> <u>rows to provide output signal values having signals that are generated from pixels</u> <u>within the adjacent rows within the array</u> ~~a signal line for each row of pixels in the~~ ~~array, wherein each signal line is routed to at least a portion of the pixels in two~~ ~~adjacent rows based on the arrangement of the color filter kernels~~.

20.   (Currently amended) The camera of claim 9, wherein the image sensor further comprises <u>an integration time control line for each row of</u> <u>pixels, wherein each integration time control line is routed to a portion of the</u> <u>pixels in two adjacent rows to provide output signal values having signals that are</u> <u>generated from pixels within the adjacent rows within the array</u> ~~a signal line for~~ ~~each row of pixels in the array, wherein each signal line is routed to at least a~~ ~~portion of the pixels in two adjacent rows based on the arrangement of the color~~ ~~filter kernels~~.

21. (Previously presented) The image sensor of claim 8, further comprising a color filter pattern spanning at least a portion of the pixels, wherein the color filter pattern forms a plurality of color filter kernels having at least one color of every color in the color filter pattern in a predetermined arrangement with an identical pattern of colors in each color filter kernel, and wherein the color filter kernels are arranged in at least two different uniformly distributed sets that are correlated with the color filter pattern.

22. (Currently amended) The image sensor of claim 21, wherein the color filter pattern is a 2x2 kernel ~~and an integration time pattern is an~~ ~~alternating pattern of two lines at one integration time and adjacent two lines at~~ ~~another integration time~~.

23. (Previously presented) The image sensor of claim 8, further comprising:

        a memory; and

        means for writing the output signal values into two row locations in the memory for each row of pixels to reconstruct an image.

24. (New) An image sensor comprising:

        (a) a plurality of pixels arranged in an array of rows and columns;

        (b) a color filter pattern spanning at least a portion of the pixels, wherein the color filter pattern forms a plurality of color filter kernels having at least one color of every color in the color filter pattern in a predetermined arrangement with an identical pattern of colors in each color filter kernel, and wherein the color filter kernels are arranged in at least two different uniformly distributed sets that are correlated with the color filter pattern; and

        (c) a mechanism for independent control of an integration time of each uniformly distributed set, wherein a first uniformly distributed set has a first integration time and a second uniformly distributed set has a second integration time that is different from the first integration time, and wherein at least a portion of the pixels in at least one of the uniformly distributed sets does not contain valid signal level information.

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